



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,780	07/14/2003	Mitsuru Sugimoto	030816	4034

23850 7590 03/25/2004

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP  
1725 K STREET, NW  
SUITE 1000  
WASHINGTON, DC 20006

EXAMINER

RIDDLE, KYLE M

ART UNIT PAPER NUMBER

3748

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/617,780

Applicant(s)

SUGIMOTO ET AL.

Examiner

Kyle M. Riddle

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 07142003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Page 11, lines 12 and 19, "31b" is not shown in the drawings. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

2. The disclosure is objected to because of the following informalities:

- Page 32, line 10, "exist" should read --exhaust--;
- Page 33, line 23, "2" should read --12--.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yagi (U.S. Patent 4,870,930) in view of Hara (U.S. Patent 6,085,704).

Yagi discloses an engine valve control apparatus comprising:

- a cam 10 rotatably supported on a cylinder head 1 to actuate rocker arm 9 for opening and closing intake valve 2 (column 2, lines 55-62);

Art Unit: 3748

- an electromagnetic actuator 11 with electromagnetic solenoid 12 and magnetic pole member 13 secured to valve stem 2b (column 2, lines 64-68 and Figure 1);

- energizing the electromagnetic solenoid 12 to attract the magnetic pole member 13 to hold the intake valve 2 in an open position (column 3, lines 27-32);

- a seating-shock absorbing device 18 (hydraulic damper) to absorbing the seating shock of the intake valve 2 when the electromagnetic actuator 11 is deenergized and the valve closes (column 3, lines 37-46).

Yagi fails to disclose a holding rod connected to an armature at a valve stem end or the hydraulic damping device being supported on a camshaft holder.

Hara teaches an electromagnetically actuating mechanism 24 with casing 29 mounted in cylinder head 21 above transmission cam 46 and retained in cylindrical holder 36 (column 5, lines 15-18, lines 27-38) and having an armature 30 connected to tappet shaft 38 with end tappet 39 contacting the transmission cam 46 to actuate intake valve 23 (column 5, lines 40-48 and Figures 1, 3, and 4), and further providing a hydraulic lash adjuster 47 within cylindrical partition wall 29c disposed inside on one side of the casing 29a (column 7, lines 6-10). It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Hara in the apparatus of Yagi, since the use thereof would have provided an alternate design location for the electromagnetic actuator and hydraulic mechanism mounting support.

Art Unit: 3748

***Allowable Subject Matter***

5. Claims 2-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. The IDS (PTO-1449) filed on 14 July 2003 has been considered. An initialized copy is attached hereto.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of 1 patent.

- Yagi et al. (U.S. Patent 4,934,348) disclose a valve operation control system with a cam, rocker arm, damping, and an electromagnetic actuator to hold the valve closed.

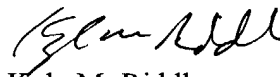
***Communication***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle M. Riddle whose telephone number is (703) 306-3409. The examiner can normally be reached on M-F (07:30-5:00) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3748

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kyle M. Riddle  
Examiner  
Art Unit 3748

kmr



THOMAS DENION  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700